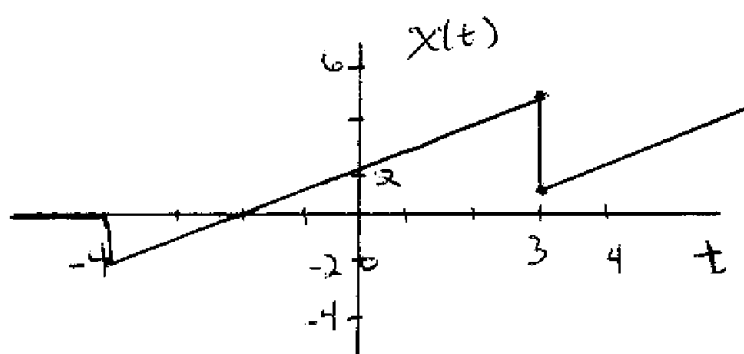
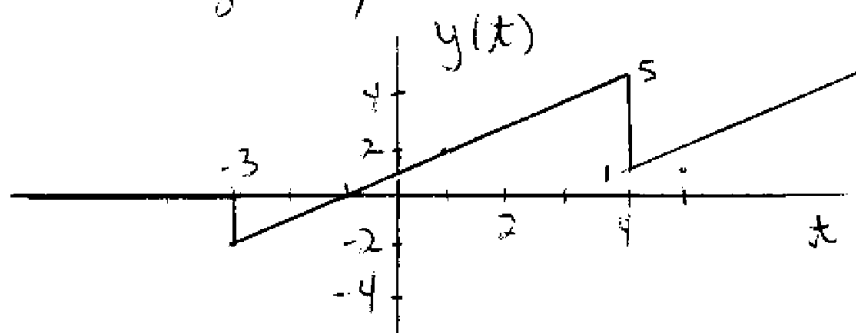


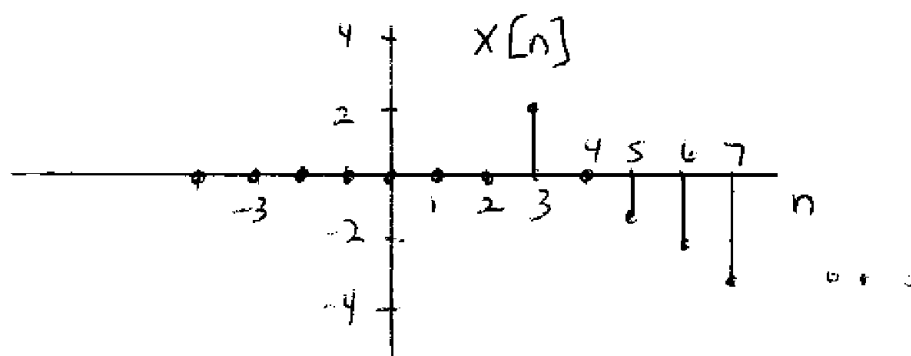
1 a)



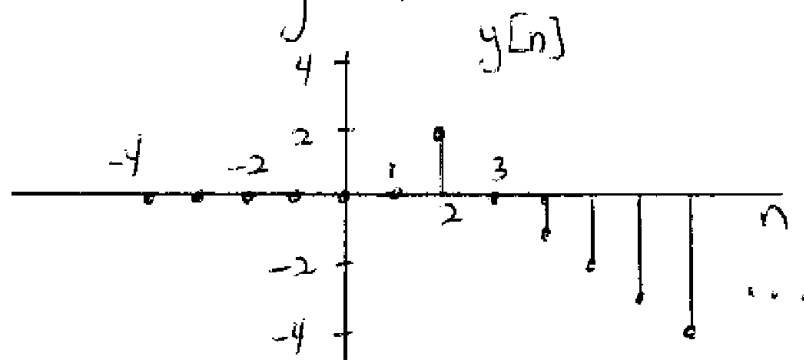
b) shift right by 1 sec



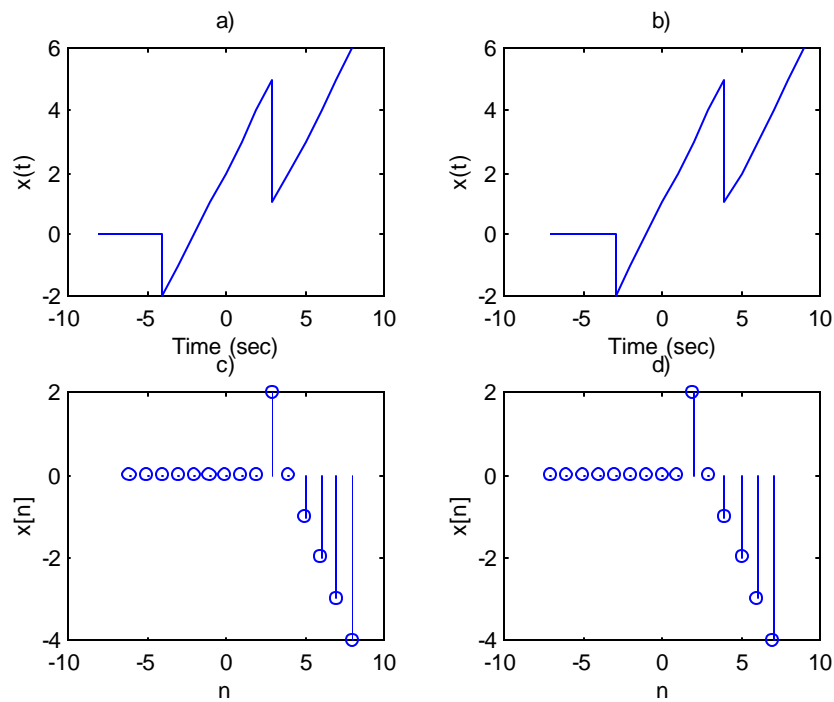
c)



d) shift left by 1



2.



The following commands were saved in an M-file:

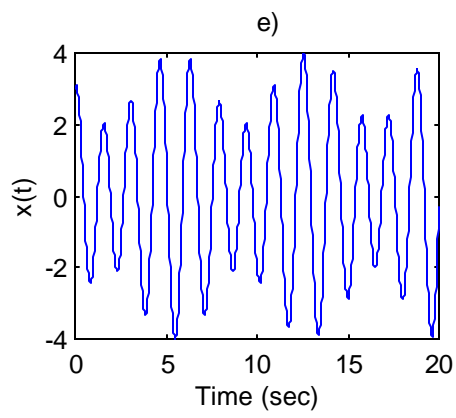
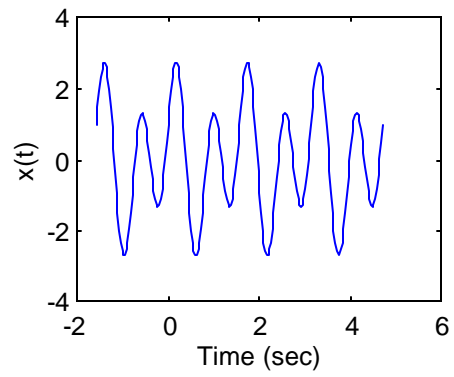
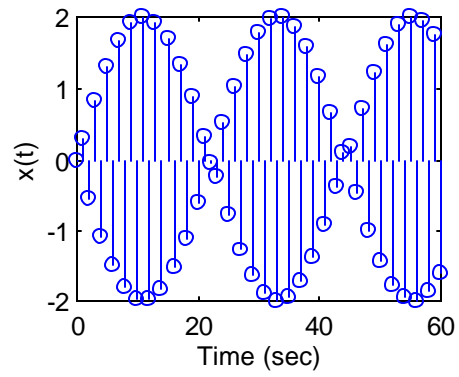
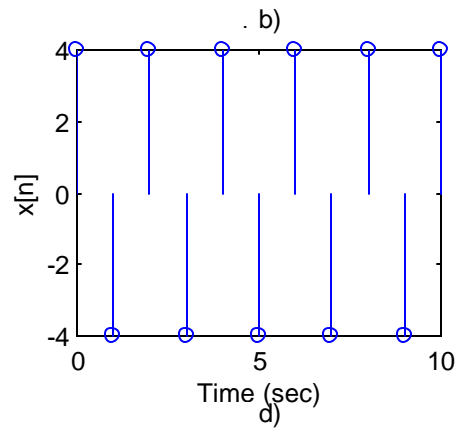
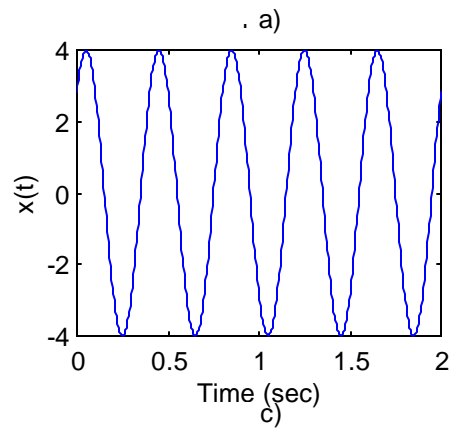
```
% a)
t1 = -8:-4; x1 = zeros(size(t1));
t2 = -4:3; x2 = t2+2;
t3 = 3:8; x3 = t3-2;
t = [t1 t2 t3];
x = [x1 x2 x3];
subplot(221),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('a')
```

```
% b)
t = t+1;
subplot(222),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('b')
```

```
% c)
n1 = -6:1; x1 = zeros(size(n1));
n2 = 2:3; x2 = 2*n2-4;
n3 = 4:8; x3 = 4-n3;
n = [n1 n2 n3];
x = [x1 x2 x3];
subplot(223),stem(n,x)
xlabel('n')
ylabel('x[n]')
title('c')
```

```
% d)
n = n-1;
subplot(224),stem(n,x)
xlabel('n')
ylabel('x[n]')
title('d'),subplot(111)
```

3.



Here is an M-file that contains the script to plot generate these plots:

```
% a)
% period is 2/5, so 2 sec is long enough for plot
t = 0:.4/100:2;
x = 4*cos(5*pi*t-pi/4);
subplot(2,2,1),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('a)')

% b)
% period is n=2, so plot for n=0 to 10
n=0:10;
x = 4*cos(pi*n);;
subplot(2,2,2),stem(n,x)
xlabel('Time (sec)')
ylabel('x[n]')
title(' b)')

% c)
% not periodic, try plotting for various lengths to see how it looks
n=0:60;
x = 2*sin(3*n);;
subplot(2,2,3),stem(n,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('c)')

% d)
% period is 2pi/4, so plot for 4 cycles
T = 2*pi/4;
t = -T:T/50:3*T;
x = cos(4*t)+2*sin(8*t);
subplot(2,2,4),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('d)')

% e)
% not periodic, see how it looks for various lengths
t = 0:.02:20;
x = 3*cos(4*t)+sin(pi*t);
figure(2) % opens new window
subplot(2,2,1),plot(t,x)
xlabel('Time (sec)')
ylabel('x(t)')
title('e)')
subplot(1,1,1)
```

4. Go to <http://finance.yahoo.com>

Enter the symbol QQQQ in the "Get Quotes" field near the top and click on "Go." Click on "Historical Prices" in the left-hand column. Enter the desired dates. A table with the prices will be displayed. Click on "Download to a Spreadsheet" at the bottom of the table. The resulting file will need to be edited in Excel to reverse the chronological order of the data by sorting the data so that the first column is in ascending order. Highlight the first column starting at the second row and sort by using the "Data" menu sort option. Save the result to a directory that is already in the path for MATLAB, or add the chosen directory to the MATLAB path. Type the following in MATLAB:

```
>> c=csvread('QQQQ_plotting_ex.csv',1,4,[1 4 64 4]);  
>> plot(n,c,n,c,'o');  
>> grid;  
>> xlabel('Day (n)')  
>> ylabel('Closing Price')
```

